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## MIGRATION AND NESTING OF THE SAGE THRASHER

BY M. FRENCH GILMAN

THIS bird, *Oroscoptes montanus*, was a favorite of mine from boyhood, tho I saw little of him, merely a passing acquaintance, as it were. He seemed to attend strictly to his own business, that of migrating, but was never nervous or flurried. He apparently never had time for frivolities or any side trips, tho I can't say that he hurried on his way. He would run to a bush, halt an instant, and then on to another. If bushes were far apart he would sometimes fly from one cover to another, halt, and then forward again. A worm in the interval, did not turn him aside; he would swallow it and move on. He knew just where he was going, and while in no haste to arrive, was not to be diverted from the straight and narrow path. He seemed to be aware that a straight line was the shortest distance between two points, and even if pursued could not be forced many points off his course.

These were my earlier impressions of his character and caused much interest and some observation of his migrating. These few notes on the travels of the sage thrasher were made in southern California and include territory about thirty-five miles long and three or four wide, San Gorgonio Pass, extending from Palm Springs on the Colorado desert, 500 feet elevation, to the summit of the Pass, 2500 feet elevation.

At Palm Springs the thrashers usually appeared about the middle of January, tho I have seen them there during the latter part of December. They came in from a southeasterly direction, across the desert, moving from bush to bush as I have described. Their rate of travel seems very slow in view of the fact that they always appear to be moving forward. Some seasons they would be a month in traversing the thirty or thirty-five miles, a speed of about a mile per day. I am satisfied that this is their average speed across the country I have mentioned, as I have observed it on short distances as well. I have seen the birds at all points between the two localities named, and the dates of observance practically coincide with the estimated speed of travel. I have noticed the birds five or six miles east of town and a week later they would appear a mile or two west of town. I walked a mile and a half to school, to the east of my home, and would see the first birds in the morning at the school end of the line. On my way home in the evening I would overtake them about a mile from where I had seen them earlier in the day.

Now I do not pretend to give these figures as an estimate of their rate of travel during the entire migration. To do so would be absurd, as their destination is so far from where I observed them. At a mile per day they could never reach their nesting place, raise a family, and get back to winter quarters. I do not know the nearest point where their nests may be found; but from some experience in their nesting haunts in southwestern Colorado, I believe some parts of the Mojave Desert would be promising.

In forming any theory of migration so much data is necessary that I hesitate. Any one, however, has some right to an opinion, and mine is that the sage thrasher migration is local rather than general. I have never seen them on their return trips in the autumn and some seasons they have failed to materialize in the spring movement. I saw them in their nesting places in Colorado as late as October 30, and judging from movements of some of our California birds in perpendicular migrations, these thrashers would not go to the Mexican line to spend the winter.

I should like to hear of observations from the Cajon Pass and points in the vicinity of Antelope Valley.

With this interest in the thrasher during migration it was with much pleasure I looked forward to studying him during the season of family cares; and when spring opened in southwestern Colorado I began sharpening eyes and pencil. But no thrashers appeared and I had about given up hope of seeing him in his summer home when a wagon trip thru part of Montezuma County down into the Southern Ute Indian Reservation gave me opportunity for a few observations. My time was limited and only superficial work could be done. I saw the first birds in the sage brush near Cortez, the county seat of Montezuma County, altitude near 6000 feet. They were rather tame, flying from brush along the roadside up onto fence posts. Two or three old nests were seen but the birds were not numerous.

From Cortez southward was a constant tho gradual descent toward the San Juan River. As the altitude decreased the number of thrashers increased and more old nests were seen. I had no time, while en route, for search, but during the noon hour I "took to the brush" and found the first new nest. It was in a thick sage bush (*Artemisia tridentata*) and was discovered by flushing the birds from an adjoining bush. The nest contained the shells of two freshly broken eggs, the cause of breakage not being apparent and the nest not otherwise disturbed. This was on May 31. Later in the day I saw two families of young birds that had just left the nest, one brood of nestlings not being able to fly sufficiently to escape capture and inspection. The discovery of these birds so nearly matured left me small hope of finding any eggs.

That afternoon I reached Navajo Springs, the Southern Ute Agency. The agency is near the New Mexico line and is located in a narrow pass between Ute Peak and a line of bluffs capped with the characteristic rim-rock of this country. A cut or arroyo begins a mile above the agency and extends down the pass, deepening all the while. A small stream of water was flowing along the bottom for possibly two miles before sinking. On each side of the cut was a strip of bushy or shrubby growth composed of sage brush, grease-wood (*Sarcobatus vermiculatus*), and another desert shrub not familiar to me. Locally it is called "chico-brush" and is a good indication of alkali in the soil.

In this growth were many thrashers, some few lark buntings and several mocking-birds. Taking advantage of what little daylight remained, after putting up my team I made a hasty search in the immediate vicinity of the agency and found two nests with eggs. The first was in a sage two and one-half feet from the ground and contained seven beautiful greenish-blue eggs specked with rich brown. This nest was made of dry twigs from sage and grease-wood, and was lined with sage bark, horse hair, goat hair, and rabbit fur. The second nest was also in a sage bush and about two feet from the ground. It was similar in construction to the first but the lining contained no rabbit fur and the set was of six eggs. Both sets were about one-third incubated.

June 1, I was again afield for a short time and found two more nests. One was in a grease-wood two and one-half feet from the ground and contained six eggs about as much incubated as those found the day before. This nest was similar to the others except for a distinct arch or platform of dry twigs just above it. The arch looked more like design than accident but I formed no decided opinion in regard to it. The fourth nest was in a sage two feet from the ground and contained three fresh eggs. In addition to these thrashers' nests I found a lark buntings' nest with five fresh eggs, and a mocking-birds' with five partly incubated eggs; also some young chipping sparrows.

June 2, on my way home I found two more thrashers' nests. Both had been scenes of violence or disturbance and were deserted. One contained three eggs partly incubated and then dried, while the other had three eggs simply rotten, without any sign of incubation. One nest was in a sage, the other in a grease-wood and both about two feet from the ground. There was no clue to the cause of either catastrophe.

Of the seven new nests found, three had been disturbed and probably the matrons of the last two were killed. I offer no solution as to what was the disturbing element. I did not hear the birds sing at all and they seemed rather retiring in disposition, tho not particularly wild. They left the nest quietly in thrasher-fashion on the opposite side of the bush when I was a few feet distant. In no case except when I caught one of the young that had left the nest did they show any parental concern. In nesting as well as in migrating they seem to have a go-as-you-please gait. During the three days observation I saw incomplete sets of fresh eggs, sets partly incubated, deserted nests and eggs, and young birds grown and partly grown.

*Fort Lewis, Colorado.*

## AN EXPERIENCE WITH THE SOUTH AMERICAN CONDOR

BY SAMUEL ADAMS

WITH PHOTOGRAPHS BY MESSRS. ADAMS AND MARTIN

A COLLECTING party composed of Mr. H. T. Martin of the University of Kansas and myself, then a recent graduate of that school, spent the latter part of 1903 and the early half of 1904 in southern Argentina, the greater part of the time in Patagonia. It has been known as far back as Darwin's time that rich fossil beds exist in this country. The reading of the reports of three fossil-hunting expeditions to Patagonia, made by the late J. B. Hatcher of Princeton, led us to go to this field, where many rare and interesting specimens rewarded the party's efforts.

The pampa, or great central plateau of Patagonia, extends from the foothills of the Andes to the Atlantic coast where it ends by an almost perpendicular fall of three to five hundred feet to the seashore. The waves and currents continually undermine the cliffs and the waters wash away the fragments and debris where they fall below. While prospecting for fossils in these barrancas, as the cliffs are called, near the mouth of the Rio Gallegos (52 S. Lat.) condors were frequently seen flying about the tops of the cliffs and over the plain.

My previous interest in the South American condor (*Sarcorhamphus gryphus*) had been aroused by numerous descriptions which I had read of its marvelous powers of flight, and my first thoughts on seeing the bird in the freedom of its native habitat were to verify the statements of early observers. Time and again I found myself prone on my back intent on this feathered giant as he wheeled and turned in majestic circles and curves without the slightest apparent effort until he disappeared on the horizon or I tired of watching him.

As our camp was moved from time to time to facilitate our work we had a good opportunity to examine the barrancas thoroly and at last encamped near a point about which a pair of condors were seen almost daily, our attention being